

Virology

QR
360
V5

VOLUME 20 • 1963

EDITORS

George K. Hirst, EDITOR-IN-CHIEF *L. M. Black* *Myron K. Brakke*
S. E. Luria *L. Siminovitch* *Irwin Tessman*

ASSOCIATE EDITORS

<i>G. Bertani</i>	<i>Robert Horne</i>	<i>A. F. Ross</i>
<i>Rupert J. Best</i>	<i>W. K. Joklik</i>	<i>Harry Rubin</i>
<i>Allan Campbell</i>	<i>Basil Kassanis</i>	<i>W. Schäfer</i>
<i>John S. Colter</i>	<i>Eduard Kellenberger</i>	<i>R. Walter Schlesinger</i>
<i>Samuel Dales</i>	<i>C. A. Knight</i>	<i>Albert Siegel</i>
<i>Frank Fenner</i>	<i>David R. Krieg</i>	<i>Robert L. Sinsheimer</i>
<i>Clarence R. Fuerst</i>	<i>Leon Levintow</i>	<i>Michael Stoker</i>
<i>Robert W. Fulton</i>	<i>André Lwoff</i>	<i>J. P. H. van der Want</i>
<i>Karl Habel</i>	<i>Benjamin Mandel</i>	<i>H. G. Wittmann</i>
<i>Werner Henle</i>	<i>Roy Markham</i>	<i>C. E. Yarwood</i>
<i>A. D. Hershey</i>		

ACADEMIC PRESS
New York and London



Copyright ©, 1963, by Academic Press Inc.

ALL RIGHTS RESERVED

No part of this volume may be reproduced in any form, by photostat, microfilm, or any other means, without written permission from the publishers.

Made in the United States of America

Contents of Volume 20

NUMBER 1, MAY 1963

J. GALASSO AND D. G. SHARP. Homologous Inhibition with Heated and Ultraviolet-Treated Vaccinia Virus in Cultures of L Cells.....	1
OSSEIN MIR CHAMSY AND PETER D. COOPER. Indirect Evidence for the Presence of Ribonucleic Acid in Vesicular Stomatitis Virions.....	14
V. G. LAVER. The Structure of Influenza Viruses. II. C-Terminal Amino Acid Analyses.....	20
ADA LEDINKO. An Analysis of Interference between Active Polioviruses Types 1 and 2 in HeLa Cells.....	29
WARREN A. FURUMOTO AND S. G. WILDMAN. Studies on the Mode of Attachment of Tobacco Mosaic Virus.....	45
WARREN A. FURUMOTO AND S. G. WILDMAN. The Specific Infectivity of Tobacco Mosaic Virus.....	53
ANS J. EGGERS AND IGOR TAMM. Drug Dependence of Enteroviruses: Variants of Cocksackie A9 and ECHO 13 Viruses That Require 2-(α -Hydroxybenzyl)-benzimidazole for Growth.....	62
PETER K. VOGT AND NANCY LUYKX. Observations on the Surface of Cells Infected with Rous Sarcoma Virus.....	75
JOY MARKHAM, SIMON FREY, AND G. J. HILLS. Methods for the Enhancement of Image Detail and Accentuation of Structure in Electron Microscopy.....	88
HOWARD SCOTT. Purification of Cucumber Mosaic Virus.....	103
ADA LEDINKO. Genetic Recombination with Poliovirus Type 1. Studies of Crosses between a Normal Horse Serum-Resistant Mutant and Several Guanidine-Resistant Mutants of the Same Strain.....	107
M. BLACK, MYRON K. BRAKKE, AND A. E. VATTER. Purification and Electron Microscopy of Tomato Spotted-Wilt Virus.....	120
S. WRIGHT. Detection of Strain-Specific Serological Activity on Antisera of Tobacco Mosaic Virus, Clover Yellow Mosaic Virus, and Potato Virus X, by Complement Fixation.....	131
L. L. FENWICK AND D. PELLING. The Early Increase of Resistance to Ultraviolet Irradiation in Cells Infected with Poliovirus.....	137
KIRA YAMAGUCHI, TOSHIO KIKUMOTO, AND CHIAKI MATSUI. Electron Microscopy of Elongated Particles Associated with Tulip Mosaic.....	143
U BELLE BOICE AND S. E. LURIA. Behavior of Prophage P1 in Bacterial Matings. 1. Transfer of the Defective Prophage P1 <i>dl</i>	147
IA-HSI WU AND W. HUDSON. Absence of Interference between Tobacco Mosaic Virus and Tobacco Necrosis Virus in the Initiation of Infection.....	158
R. MCAUSLAN. Control of Induced Thymidine Kinase Activity in the Poxvirus-Infected Cell.....	162
B. HUTCHINSON AND R. E. F. MATTHEWS. The Fate of Turnip Yellow Mosaic Virus in the Nonvector Aphid <i>Hyadaphis brassicae</i> (L.).....	169

STELLAN BENGTTSSON AND LENNART PHILIPSON. Countercurrent Distribution of Poliovirus Type 1.....	17
S. SARKAR. Relative Infectivity of Tobacco Mosaic Virus and Its Nucleic Acid.....	18
A. J. GIBBS, B. KASSANIS, H. L. NIXON, AND R. D. WOODS. The Relationship between Barley Stripe Mosaic and Lychnis Ringspot Viruses.....	19
MAURICE GREEN AND MAGDALENA PIÑA. Biochemical Studies on Adenovirus Multiplication. IV. Isolation, Purification, and Chemical Analysis of Adenovirus.....	19

DISCUSSION AND PRELIMINARY REPORT

L. PINTERIC, P. FENJE, AND J. D. ALMEIDA. The Visualization of Rabies Virus in Mouse Brain.....	20
Erratum.....	21

NUMBER 2, JUNE 1963

ANDRZEJ W. KOZINSKI AND PATTI B. KOZINSKI. Fragmentary Transfer of P ³² -Labeled Parental DNA to Progeny Phage. II. The Average Size of the Transferred Parental Fragment. Two-Cycle Transfer. Repair of the Polynucleotide Chain after Fragmentation.....	21
KIRSTEN H. WALÉN. Demonstration of Inapparent Heterogeneity in a Population of an Animal Virus by Single-Burst Analyses.....	23
HOWARD M. TEMIN. Further Evidence for a Converted, Non-virus-Producing State of Rous Sarcoma Virus-Infected Cells.....	23
A. H. STOUTHAMER, W. TH. DAEMS, AND J. EIGNER. Electron Microscope Studies of Bacteriophage Adsorption with Negative and Positive Staining.....	24
W. G. LAVER. The Structure of Influenza Viruses. 3. Disruption of the Virus Particle and Separation of Neuraminidase Activity.....	25
ALAN RICHTER AND EBERHARD WECKER. The Reaction of EEE Virus Preparations with Sodium Deoxycholate.....	26
WESLEY C. WILCOX AND HAROLD S. GINSBERG. Protein Synthesis in Type 5 Adenovirus-Infected Cells. Effect of <i>p</i> -Fluorophenylalanine on Synthesis of Protein, Nucleic Acids, and Infectious Virus.....	26
J. P. MACKINNON. Some Factors That Affect the Aphid Transmission of Two Viruses That Persist in the Vector.....	28
RENANA BEN-GURION. The Production of Phage in Induced Lysogenic and in Infected Sensitive Bacteria.....	28
AARON J. SHATKIN. The Formation of Vaccinia Virus Protein in the Presence of 5-Fluorodeoxyuridine.....	29
EDWARD S. SYLVESTER AND JEAN RICHARDSON. Short-Term Probing Behavior of <i>Myzus persicae</i> (Sulzer) as Affected by Fasting, Anesthesia, and Labial Manipulation.....	30
TAMAR BEN-PORAT AND ALBERT S. KAPLAN. The Synthesis and Fate of Pseudorabies Virus DNA in Infected Mammalian Cells in the Stationary Phase of Growth.....	31
W. B. BECKER. The Morphology of Tern Virus.....	31
PETER E. LEE AND D. D. JENSEN. Crystalline inclusions in <i>Colladonus montanus</i> (Van Duzee), a Vector of Western X-Disease Virus.....	32
SVANTE HERMODSSON. Inhibition of Interferon by an Infection with Parainfluenza Virus Type 3 (PIV-3).....	33
ALLAN CAMPBELL. Segregants from Lysogenic Heterogenotes Carrying Recombinant Lambda Prophages.....	34

CARRIET C. ROUSE, VALENTIN H. BONIFAS, AND R. WALTER SCHLESINGER. Dependence of Adenovirus Replication on Arginine and Inhibition of Plaque Formation by Pleuropneumonia-like Organisms.....	357
MICHAEL STOKER. Delayed Transformation by Polyoma Virus.....	366

DISCUSSION AND PRELIMINARY REPORTS

VLASTIMIL MAYER. Two Variants of Tick-Borne Encephalitis Virus Showing Different Plaque Morphology.....	372
MARVIN A. RICH AND LEWIS W. JOHNS, JR. Morphology of an Agent Associated with a Murine Leukemia.....	373
J. G. CRUICKSHANK, D. M. BERRY, AND B. HAY. The Fine Structure of Infectious Laryngotracheitis Virus.....	376
J. SEMAL. Differences in the Early Stages of Infection of Bean and <i>Nicotiana glutinosa</i> by Tobacco Mosaic Virus.....	378
TAPANI VAINIO, LAURI SAXÉN, AND SULO TOIVONEN. The Acquisition of Cellular Resistance to Polyoma Virus during Embryonic Differentiation.....	380
D. F. PARSONS. Morphology of K Virus and Its Relation to the Papova Group of Viruses.....	385
D. HENDRINA BRANTS. Transport of C ¹⁴ -Labeled Tobacco Mosaic Virus Material in Tobacco Leaves.....	388

NUMBER 3, JULY 1963

J. DALTON, L. KILHAM, AND R. F. ZEIGEL. A Comparison of Polyoma, "K", and Kilham Rat Viruses with the Electron Microscope.....	391
ARCHETTI AND D. STEVE BOCCIARELLI. Structure of Some Simian Adenoviruses....	399
ORIO HINUMA, TSUTOMU MIYAMOTO, REI OHTA, AND NAKAO ISHIDA. Counting of Sendai Virus Particles by an Immunofluorescent Technique.....	405
F. T. MATTERN, A. C. ALLISON, AND W. P. ROWE. Structure and Composition of K Virus, and Its Relationship to the "Popovavirus" Group.....	413
LICE GOLDE AND PHILIPPE VIGIER. Kinetic Study of the Inhibition of Growth of Rous Sarcoma Virus and Cells by 5-Fluorouracil <i>in Vitro</i>	420
R. PFEFFERKORN AND HILDA SALMON HUNTER. Purification and Partial Chemical Analysis of Sindbis Virus.....	433
R. PFEFFERKORN AND HILDA SALMON HUNTER. The Source of the Ribonucleic Acid and Phospholipid of Sindbis Virus.....	446
FRANCISCO PINHEIRO AND G. D. HSIUNG. A Study on Dissociation of Coxsackie B4 Virus-Antibody Complex.....	457
PREVEC AND G. F. WHITMORE. Purification of Vesicular Stomatitis Virus and the Analysis of P ³² -Labeled Viral Components.....	464
IRVING RAPPAPORT AND JIA-HSI WU. Activation of Latent Infection by Heat.....	472
NIENHAUS AND C. E. YARWOOD. Translocated Wound Stimuli Affecting Plant Virus Infections.....	477
L. VAUGHN AND P. FAULKNER. Susceptibility of an Insect Tissue Culture to Infection by Virus Preparations of the Nuclear Polyhedrosis of the Silkworm (<i>Bombyx mori</i> L.).....	484
BABOS AND B. KASSANIS. Thermal Inactivation of Tobacco Necrosis Virus.....	490
BABOS AND B. KASSANIS. The Behaviour of Some Tobacco Necrosis Virus Strains in Plants.....	498
AD LOEBENSTEIN AND A. FRANK ROSS. An Extractable Agent, Induced in Uninfected Tissues by Localized Virus Infections, That Interferes with Infection by Tobacco Mosaic Virus.....	507

A. COHEN, S. E. NEWLAND, AND F. BIDDLE. Inhibition of Influenza Virus Haemagglutination: A Difference of Behavior in Sera from a Single Species.....	518
--	-----

DISCUSSION AND PRELIMINARY REPORTS

JULIA LEVITT, W. DU T. NAUDÉ, AND A. POLSON. Purification and Electron Microscopy of Pantropic Rift Valley Fever Virus.....	530
A. FOGEL AND E. EYLAN. Serodifferentiation of Virulent and Attenuated Polioviruses by Absorbed Antisera.....	533
EDWARD DE MAEYER AND JAQUELINE DE MAEYER-GUIGNARD. Inhibition by 20-Methylcholanthrene of Interferon Production in Rat Cells.....	538
A. H. REISNER, W. R. SOBEY, AND DOROTHY CONOLLY. Differences among the Soluble Antigens of Myxoma Viruses Originating in Brazil and in California.....	538
LYMAN B. CRITTENDEN, WILLIAM OKAZAKI, AND RICHARD RAEMER. Genetic Resistance to Rous Sarcoma Virus in Embryo Cell Cultures and Embryos.....	541
Erratum.....	541

NUMBER 4, AUGUST 1963

W. A. STENBACK AND D. P. DURAND. Host Influence on the Density of Newcastle Disease Virus (NDV).....	541
MASAHIKO ODA. Vaccinia Virus-HeLa Cell Interaction. I. The Effect of Immune Serum on the Production of Infective Virus, Complement-Fixing Antigen, and Hemagglutinin.....	551
H. LIEBHABER AND K. K. TAKEMOTO. The Basis for the Size Differences in Plaques Produced by Variants of Encephalomyocarditis (EMC) Virus.....	551
DAVID GERSHON AND LEO SACHS. Resistance and Susceptibility to Challenge Infection of Polyoma-Induced Tumor Cell Clones.....	561
HOWARD M. TEMIN. The Effects of Actinomycin D on Growth of Rous Sarcoma Virus <i>in Vitro</i>	571
P. B. HUTCHINSON. The Precipitation of Plant Viruses by Extracts of Insects.....	581
A. TAMURA AND N. HIGASHI. Purification and Chemical Composition of Meningopneumonitis Virus.....	591
STEPHEN COOPER AND NORTON D. ZINDER. The Growth of an RNA Bacteriophage: The Role of Protein Synthesis.....	601
H. G. PEREIRA, R. J. HUEBNER, H. S. GINSBERG, AND J. VAN DER VEEN. A Short Description of the Adenovirus Group.....	611
C. E. YARWOOD. The Quick-Drying Effect in Plant Virus Inoculations.....	621
MORAG C. TIMBURY. Inhibition of Viral Replication by Anticellular Serum.....	621

DISCUSSION AND PRELIMINARY REPORTS

ROGER G. HART. Electron Microscopy of Shadowed Tobacco Mosaic Virus.....	63
N. D. ZINDER, R. C. VALENTINE, M. ROGER, AND W. STOECKENIUS. f1, a Rod-Shaped Male-Specific Bacteriophage that Contains DNA.....	63
ABNER LOUIS NOTKINS AND CHRISTINA SCHEELE. An Infectious Nucleic Acid from the Lactic Dehydrogenase Agent.....	64
H FRED CLARK AND CHARLES C. SHEPARD. A Dialysis Technique for Preparing Fluorescent Antibody.....	64
Author Index.....	64
Subject Index.....	64